

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
21 April 2005 (21.04.2005)

PCT

(10) International Publication Number  
**WO 2005/034844 A2**

- (51) International Patent Classification<sup>7</sup>: **A61K**
- (21) International Application Number:  
PCT/US2004/021487
- (22) International Filing Date: 1 July 2004 (01.07.2004)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
60/502,186 12 September 2003 (12.09.2003) US
- (71) Applicant (for all designated States except US): **CLEVELAND STATE UNIVERSITY** [US/US]; 2121 Euclid Avenue, Cleveland, OH 44115 (US).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): **KALAFATIS, Michael** [US/US]; 2859 Sedgewick Road, Shaker Heights, OH 44120 (US).
- (74) Agent: **BANDY, Mark, E.**; Fay, Sharpe, Fagan, Minnich & McKee, LLP, 1100 Superior Avenue, Suite 700, Cleveland, OH 44114 (US).

- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Published:**

— without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: EXOSITE-DIRECTED THROMBIN INHIBITORS

680	KMHDRLEPEDEESDADYDYQNRLAAALGIR	709	SEQ ID NO. 1
HC1	KMHDRLEPED		SEQ ID NO. 2
HC2	LEPEDEESDA		SEQ ID NO. 3
HC3	EESDADYDYQ		SEQ ID NO. 4
HC4	DYDYQNRLAA		SEQ ID NO. 5
HC5	NRLAAALGIR		SEQ ID NO. 6

(57) Abstract: Disclosed are an amino acid sequence of the human blood clotting factor Va, peptides containing such sequence, and additional peptides of interest that significantly inhibit thrombin generation. Also disclosed are pharmaceutical compositions containing these peptides and related therapeutic methods for inhibiting thrombin generation and treating blood coagulation disorders.



**WO 2005/034844 A2**